

**WHAT IS CLAIMED IS:**

1. An extensible data analysis system for analyzing integrated circuit fabrication data produced during integrated circuit fabrication, comprising:

an application tier for selectively running analysis nodes, the application tier having an architecture for optionally including and excluding a desired selection of the analysis nodes, where the application tier architecture allows the selection of the analysis nodes to be dynamically added by a user, and

a data access tier for selectively running data reader nodes, the data access tier including an architecture for optionally including and excluding a desired selection of the data reader nodes, where the data reader nodes interpret a desired variety of data source files containing the integrated circuit fabrication data having different formats for access by the application tier, where the data access tier architecture allows the selection of the data reader nodes to be dynamically added by the user.

2. The extensible data analysis system of claim 1, wherein at least a portion of the analysis nodes are proprietary nodes developed by the user.
3. The extensible data analysis system of claim 1, wherein at least a portion of the data reader nodes are proprietary nodes developed by the user.
4. The extensible data analysis system of claim 1, further comprising a recipe navigator for choosing the desired selection of analysis nodes.
5. The extensible data analysis system of claim 1, further comprising a recipe navigator for choosing the desired selection of data reader nodes.
6. The extensible data analysis system of claim 1, wherein the desired selection of the analysis nodes are specified by a user defined recipe.
7. The extensible data analysis system of claim 1, wherein the desired selection of the data reader nodes are specified by a user defined recipe.

8. The extensible data analysis system of claim 1, wherein the nodes implement all interfaces necessary for application within the extensible data analysis system.
9. The extensible data analysis system of claim 1, wherein at least a portion of the nodes are interactive, and the extensible data analysis system presents an interface to display information to and receive information from the user when executing the interactive nodes, and at least a portion of the nodes are not interactive, and  
5 the non interactive nodes are executed by the extensible data analysis system without presenting information to and receiving information from the user.
10. The extensible data analysis system of claim 1, wherein the analysis nodes include nodes for at least one of partial least squares analysis, general discriminant analysis, classification and regression decision tree analysis, chi-square automated interaction detection decision tree analysis, general linear  
5 modeling analysis, and neural network analysis.
11. The extensible data analysis system of claim 1, wherein the application tier further selectively runs data reporting nodes, the application tier architecture further for optionally including and excluding a desired selection of the data reporting nodes, where the application tier architecture allows the selection of the  
5 data reporting nodes to be dynamically added by the user.
12. The extensible data analysis system of claim 11, wherein the data reporting nodes include nodes for at least one of scatter plot, cumulative probability plot, histogram, box plot, bivariate histogram, contingency table, and mosaic plot.
13. The extensible data analysis system of claim 1, further comprising a recipe navigator for receiving from the user the desired selection of the analysis nodes and the desired selection of the data reader nodes, and flowing data from the data source files through the desired selection of the data reader nodes and the desired  
5 selection of the analysis nodes in a data flow.

14. The extensible data analysis system of claim 13, wherein the recipe navigator includes means for guiding the user through subsequent steps of the data flow.
15. The extensible data analysis system of claim 13, wherein the recipe navigator includes means for allowing the user to selectively skip nodes in the data flow.
16. The extensible data analysis system of claim 1, further comprising association tables for associating integrated circuit fabrication conditions with integrated circuit fabrication data trends.
17. The extensible data analysis system of claim 1, further comprising a data versioning module for creating new tables of integrated circuit fabrication data as required by a data flow, where the new tables of integrated circuit fabrication data only include data records that have been changed by the data flow, and the data  
5 versioning module dynamically joins changed data records with unchanged data records as needed by subsequent nodes in the data flow.
18. An extensible data analysis system for analyzing integrated circuit fabrication data produced during integrated circuit fabrication, comprising:  
an application tier for selectively running analysis nodes, the application tier  
having an architecture for optionally including and excluding a desired  
5 selection of the analysis nodes, where the application tier architecture allows the selection of the analysis nodes to be dynamically added by a user,  
the application tier further for selectively running data reporting nodes, the  
application tier architecture further for optionally including and excluding  
10 a desired selection of the data reporting nodes, where the application tier architecture allows the selection of the data reporting nodes to be dynamically added by the user, and  
a data access tier for selectively running data reader nodes, the data access tier  
including an architecture for optionally including and excluding a desired  
15 selection of the data reader nodes, where the data reader nodes interpret a

desired variety of data source files containing the integrated circuit fabrication data having different formats for access by the application tier, where the data access tier architecture allows the selection of the data reader nodes to be dynamically added by the user,

20 wherein the desired selection of the analysis nodes, the desired selection of the data reporting nodes, and the desired selection of the data reader nodes are specified by a user defined recipe.

19. An extensible data analysis system for analyzing integrated circuit fabrication data produced during integrated circuit fabrication, comprising:

an application tier for selectively running analysis nodes, the application tier having an architecture for optionally including and excluding a desired  
5 selection of the analysis nodes, where the application tier architecture allows the selection of the analysis nodes to be dynamically added by a user,

a data access tier for selectively running data reader nodes, the data access tier including an architecture for optionally including and excluding a desired  
10 selection of the data reader nodes, where the data reader nodes interpret a desired variety of data source files containing the integrated circuit fabrication data having different formats for access by the application tier, where the data access tier architecture allows the selection of the data reader nodes to be dynamically added by the user, and

15 a recipe navigator for receiving from the user the desired selection of the analysis nodes and the desired selection of the data reader nodes, and flowing data from the data source files through the desired selection of the data reader nodes and the desired selection of the analysis nodes in a data flow, wherein the recipe navigator includes means for guiding the user through  
20 subsequent steps of the data flow, and further includes means for allowing the user to selectively skip nodes in the data flow.

20. The extensible data analysis system of claim 19, further comprising association tables for associating integrated circuit fabrication conditions with integrated circuit fabrication data trends.